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Indian Standard

SPECIFICATION FOR MASTER CARTONS FOR EXPORT OF FROZEN SEA FOODS AND FROG LEGS

UDC 621.798.142 : 664.951.812



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR MASTER CARTONS FOR EXPORT OF FROZEN SEA FOODS AND FROG LEGS

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Indian Standard

SPECIFICATION FOR MASTER CARTONS FOR EXPORT OF FROZEN SEA FOODS AND FROG LEGS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 4 December 1972, after the draft finalized by the Paper and Flexible Packaging Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

0.2 India exports large quantities of frozen shrimps and frog legs to different countries. This is an important commodity from the point of view of earning foreign exchange. The Indian seafood delegation which visited the United States in 1968 reported that the Indian cartons need a great deal of improvement. In many cases, these cartons did not retain their original shape and they reached the destination crumpled and torn with loosened box strappings. It was also observed that the materials used for fabrication of the master cartons were not of the required quality to withstand the hazards of the long journey, as well as severe handling conditions within the country.

0.3 It is hoped that this Indian Standard would help in achieving the proper quality of boxes for export packaging and put the Indian shrimps and frog legs at par with those of other countries both with respect to quality and price. This standard includes performance requirements for the materials to be used in the manufacture of the boxes, method of sampling, conditioning, testing of fibreboard, and the manner of closure after filling, etc. The requirements for solid fibreboard are based on the data provided by the indigenous manufacturer of this product.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes requirements for corrugated and solid fibreboard outer boxes for packaging for export of frozen shrimps and frog legs

*Rules for rounding off numerical values (*revised*).

in solid packs of two gross mass ranges: (a) up to 20 kg, and (b) 20 to 30 kg. Requirements for the closure of the boxes are also specified.

2. TERMINOLOGY

2.0 For the purpose of this standard, the definitions given in IS : 4261-1967*, in addition to the following shall apply.

2.1 Closure — The means of keeping a box closed after filling.

3. BOX

3.1 Master Cartons — The master cartons shall be made from corrugated fibreboard/solid fibreboard, the external liner of which shall be water proof. The physical properties of the material used for cartons shall conform to the requirements specified in Table 1.

NOTE — In the case of corrugated fibreboard box, 3-ply and/or 5-ply corrugated fibreboard may be used.

TABLE 1 PHYSICAL REQUIREMENTS OF MASTER CARTONS

SL No.	TYPE OF TEST	REQUIREMENT				METHOD OF TEST (REF TO)
		Up to 20 kg		20 — 30 kg		
		SFB* (3)	CFB* (4)	SFB* (5)	CFB* (6)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	Bursting strength kg/cm ² , <i>Min</i>	12	12	14	14	12.5 of IS : 1060 (Part I) - 1966‡
ii)	Water proofness (cobb/30 <i>Min</i>)	120	120	120	120	6 of IS : 4006 (Part I)-1966§
iii)	Substance g/m ² , <i>Min</i> :	1 400	—	1 600	—	6 of IS : 1060 (Part I)-1966‡
	a) for corrugat- ing medium	—	170 (3 ply) 150 (5 ply)	—	170 (3 ply) 150 (5 ply)	—
	b) for combined weight of liners	—	400 (3 ply) 450 (5 ply)	—	450 (3 ply) 500 (5 ply)	—
iv)	Type of flute	—	A,B,C or any combination of these	—	A,B,C or any— combination of these	—
v)	Puncture resis- tance beach units, <i>Min</i>	200	175	200	200	9 of IS : 4006 (Part II) - 1972
vi)	Flat† crush test for 3 ply, kg/cm ² , <i>Min</i>	—	2.5	—	2.5	6 of IS : 4006 (Part II) - 1972

*SFB — Solid fibreboard; CFB — Corrugated fibreboard.

†The value is applicable to 3-ply board. In the case of 5-ply board, the smaller of the two values should be taken.

‡Methods of sampling and test for paper and allied products: Part I (revised).

§Methods of test for paper and pulp based packaging materials: Part I.

||Methods of test for paper and pulp based packaging materials: Part II.

*Glossary of terms relating to paper and pulp based packaging materials.

4. STYLE

4.1 The box to this specification shall conform to the Style No. 0201 specified in IS : 6481-1971*.

4.2 The box shall form a tight pack around the primary cartons, which shall be free from punctures, holes, etc.

5. SAMPLING, CONDITIONING AND TESTING

5.1 Sampling

5.1.1 The boxes shall be sampled and tested within 20 days of their receipt by the purchaser from each consignment of 10 000 boxes or part thereof. Twenty boxes shall be selected for testing as follows:

- a) If the boxes are bundled, 20 bundles shall be selected at random and from each bundle so selected, one box shall be selected at random for testing.
- b) If the boxes are not bundled, 20 boxes shall be selected at random from the total consignment.

5.2 Conditioning

5.2.1 The sample of 20 boxes so selected shall be deemed to represent the whole consignment of boxes and shall be conditioned for testing by the method prescribed in 5 of IS : 1060 (Part I)-1966†.

5.2.2 The types of test and the selection of boxes for testing shall be as indicated in Table 2.

5.2.2.1 The requirements for the material of construction of the box as well as the methods of test for evaluating these requirements shall be as given in Table 1.

6. MANUFACTURERS' JOINT

6.1 The manufacturers' joint shall be stitched, glued, or taped as follows:

- a) *Stitched Joint*
 - 1) *Stitching flap* — The stitching flap shall be not less than 30 mm wide, and may be inside or outside the container.
 - 2) *Spacing of stitches* — The centre-to-centre spacing of stitches shall not exceed 60 mm. The clear distance from a cut edge of the fibreboard to any stitch shall be not less than 6 mm and not more 25 mm.

*Guide for principal uses and styles of fibreboard containers.

†Methods of sampling and test for paper and allied products: Part I (revised).

b) *Glued Joint*

- 1) The glueing flap shall be not less than 30 mm wide;
- 2) The adhesive used for the joint shall be a water resistant type;
- 3) The adhesive applied shall be in a strip not less than 25 mm; and
- 4) The adhesive shall be applied not nearer than 3 mm to a cut edge, and not nearer than 12 mm to a crease at the ends of the flap.

c) *Taped Joint*

- 1) The side and end to be joined shall meet within 5 mm, but not nearer than 1.5 mm;
- 2) The tape used for the joint shall be gummed reinforced tape not less than 50 mm wide;
- 3) The tape shall be applied symmetrically about the joint; and
- 4) The tape shall start and finish within 3 to 6 mm from the crease at each end of the joint.

TABLE 2 TESTING OF MASTER CARTONS

(Clause 5.2.2)

SL No.	TYPE OF TEST	NUMBER OF BOXES TO BE SELECTED FROM SAMPLE FOR TESTING	NUMBER OF TEST SPECIMENS OBTAINED FROM EACH Box	NUMBER OF TESTS ON EACH TEST SPECIMEN
(1)	(2)	(3)	(4)	(5)
i)	Bursting strength	3	1	6 (3 each side)
ii)	Water proofness (cobb/ 30 Min)	3	5	1 (on external surface only)
iii)	Substance:			
	a) for solid fibreboard	3	2	1
	b) for corrugating medium	3	2	1
	c) for combined weight of liners	3	2	1
iv)	Puncture resistance combined board	3	4 (two each for CD & MD*)	1
v)	Flat crush test in the case of corrugated fibreboard box only	3	5	1

*CD = Cross direction; MD = Machine direction.

7. CRITERIA FOR CONFORMITY

7.1 The consignment of box shall be deemed to comply with the test requirements of the specification if, after the specified number of boxes from the test sample as given in Table 2 have been tested as required in Table 1:

- a) All the boxes pass the tests, or
- b) Only one box fails to pass one or more of the tests and on retesting in accordance with 8, no further box fails to pass the test or tests.

8. RETESTS

8.1 If only one box from the test sample fails to meet one or more of the test requirements of the specification, further boxes shall be selected at random from the consignment of boxes of testing for the defective property or properties. The number of additional boxes to be tested shall be twice the number specified in Table 2 for the test or tests in which the box from the original test sample failed.

9. CLOSURE

9.1 The box, when filled, shall be securely closed by glueing the outer flaps to the inner flaps with a water resistant type glue.

9.2 The quality of the glue and the amount of glue used for the closure shall be such that both the flaps and the overlap will remain glued together with all normal conditions of transport and storage.

9.3 In addition to glueing, the boxes should be strapped with a non-metallic strap of minimum 12 mm width.

10. PRINTABILITY OF OUTER SURFACE

10.1 The condition of the outer surface of the box shall be such as to allow the marking, stamping or stencilling of the box with the type of ink normally used for the purpose. The ink should not smudge or discolour and it should be water resistant.

11. PACKING AND MARKING

11.1 Packing — The boxes shall be supplied in the form as agreed to between the purchaser and the vendor.

11.2 Marking — Each box shall have the following information legibly and indelibly marked on the outside of the bottom of the box, unless marking in another position is agreed to by the purchaser:

- a) Name, or the registered trade-mark of the box manufacturer;
- b) Batch/lot number;

- c) The words 'FOR EXPORT';
- d) Gross weight and size limit of the box; and
- e) Bursting strength of the box.

11.2.1 The box may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

INDIAN STANDARDS
ON
PAPER AND FLEXIBLE PACKAGING

IS:

2771-1965 Corrugated fibreboard boxes

6481-1971 Guide for principal uses and styles of fibreboard containers

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